NOAA TESTBEDS & PROVING GROUNDS
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

2021 Coordination Committee Annual Meeting

Agenda

Updated: 05-12-2021

The 2021 Testbeds and Proving Grounds Coordinating Committee (TBPGCC) Annual Meeting will be held virtually kicking off April 13th and continuing April 19th, May 4th and 5th with a wrapup session on May 11th. The meeting will include seven sessions in a speaker plus panel discussion format focusing on the challenges facing all of the NOAA Testbeds and Proving Grounds (TBPGs). The event has the objective of identifying new pathways for coordination and collaboration to ensure continued TBPG success. Thus, this year's annual meeting is primarily focused on conversations within and among the Coordinating Committee with some outside presentations and invitees.

- Session 1) NOAA S&T* Focus Areas and the TBPGs - AI and Cloud and a Shared Vision for Application and Transitions
- Session 2) Advancing the UFS through Testbed and Proving Ground Engagement
- Session 3) Social, Behavioral & Economic Sciences
- Session 4 A - D) Collaboration Among TBs or PGs
- Session 5) Strategies, Challenges, and Successes in the Virtual Environment
- Session 6) Transition Plans and Metrics of Success
- Session 7) Testbed Funding Opportunities, Successes and Challenges

All sessions will be recorded and hosted using GoToMeeting. By turning on your camera, you're consenting to being recorded. Presenters and Panelists, we request that you turn on your cameras during your session. For others, camera is appreciated when you're speaking

Meeting organizers include the TBPGCC chair, Andrea Ray OAR/PSL, and LO focal points Peter Stone (NOS), Satya Kalluri (NESDIS), and JJ Brost (NWS) with input from the coordinating committee members and session co-chairs. Please contact Andrea Ray (andrea.ray@noaa.gov) or Joe Fillingham (joseph.fillingham@noaa.gov) for additional information.

Presentations and Session Recordings will be posted in the TBPGCC Google drive 2021 Annual meeting folder.

There will be a **Google Chat Room** for Internal Communications During the 2021 TBPGCC Annual Meeting - find a how to guide here. The Room will be open when the meeting begins.

Acronym list at end of agenda

NOAA Testbeds and Proving Grounds 2021 Annual Meeting - Schedule at a Glance

Day 1 - April 13th	Day 2 - April 19th	Day 3 - May 4th	Day 4 - May 5th	Day 5 - May 11th
Meeting Kick-Off 2:00 PM - 4:00 PM ET	11:00 AM - 4:00 PM ET **Welcoming Remarks** 11:00 - 11:10 AM ET **Session 2 - UFS and TB&PGs** 11:10 AM - 12:40 PM ET	11:00 AM - 4:00 PM ET **Welcoming Remarks** 11:00 - 11:10 AM ET **Session 5: Virtual Environment** 11:10 AM - 12:40 PM ET	11:00 AM - 4:00 PM ET **Welcoming Remarks** 11:00 - 11:10 AM ET **Session 6: Transition Plans & Success Metrics** 11:10 AM - 12:40 PM ET	Meeting Wrap Up 2:00 - 4:00 PM ET
	30 min Break	30 min Break	30 min Break	
Welcome and Context for Meeting 2:00 PM - 2:30 PM ET **Session 1 - S&T Focus Areas (AI & Cloud)** 2:30 - 3:30 PM ET **LOTMC Chair Remarks** 3:30 - 3:50 PM **Closing Remarks** 3:50 - 4:00 PM	**Session 3 - SBES & User Engagement** 1:10 PM - 2:40 PM	**Session 4B - Satellite TB & PG** 1:10 - 2:10 PM ET	**Session 7 -Funding Opportunities and Challenges** 1:10 - 2:40 PM ET	**Welcoming Remarks** 2:00 - 2:15 PM ET **Meeting Wrap Up** 2:15 - 3:15 PM **Breakout Discussion Groups** 3:15 - 3:50 PM **Closing Remarks** 3:50 - 4:00 PM
	10 min Break	10 min Break	10 min Break	
	Session 4A - Collaboration: OPG 2:50 - 3:50 PM ET	**Session 4C - Fire Weather** 2:30 - 3:30 PM ET	**Remarks by Kim Runk** 2:50 - 3:15 PM ET	
		Remarks by OAR WPO and ORTA Directors 3:20 PM - 3:50 PM ET	**Roundtable Discussion** 3:15 - 3:50 PM ET	
	Closing 3:50 - 4:00 PM	**Closing** 3:50 - 4:00 PM	**Closing** 3:50 - 4:00 PM	
Post-Meeting Networking 4:10 - 4:45 PM	**Post-Meeting Networking** 4:10 - 4:45 PM	**Post-Meeting Networking** 5:00- %:45 PM	**Post-Meeting Networking** 4:10 - 4:45 PM	**Post-Meeting Networking** 4:10 - 4:45 PM

NOTE: new go-to-meeting for the remainder of the meeting:

https://global.gotomeeting.com/join/199539645

You can also dial in using your phone: +1 (408) 650-3123 Access Code: 199-539-645

Day 1 - Tuesday April 13, 2021

Day 1 Recording (Welcome, Session 1, and Remarks by Gary Matlock)

Welcome and context for this year's meeting - 2:00 PM - 2:30 PM ET

- Andrea Ray, TBPGCC Chair
- Peter Stone, NOAA/NOS/CO-OPS and previous Chair: ***Lookback on Coordinating Committee activities from the 2018 meeting and since.***
- Introduction slides

Session 1 - 2:30 PM - 3:30 PM ET

NOAA S&T Focus Areas and the TBPGs - AI and Cloud and a Shared Vision for Application and Transitions

Session Chair: James Yoe (JCSDA)
Presentations: Jamese Simms (NOAA/NWS) and Jebb Stewart (NOAA/OAR/GSL)
Panelists: Alan Gerard (HWT), Matt Rosencrans (CTB), Vijay Tallapragada (NOAA/NWS/NCEP)
Abstract: This session will include a presentation on NOAA's AI and Cloud Strategic Plans and panel discussion that will explore the challenges TBPGs are facing with AI and Cloud transition to applications. Key questions will focus on the pace of AI and Cloud R&D versus operational use, requirements, adequate support models, and properly scaling these technologies throughout NOAA. TB and PGs are also using AI and Cloud resources which leads to unique and important insights at the intersection between R&D and applications.

Remarks from the Chair of the LOTMC - 3:30 PM - 3:50 PM ET

- Gary Matlock, DAA for Science NOAA/OAR and Chair of the Line Office Transition Managers Committee (LOTMC)

Closing Remarks - 3:50 PM - 4:00 PM ET

Networking - 4:10 PM - 4:45 PM ET

- Join with Google Meet: https://meet.google.com/ihi-otzo-oft
- Or dial: (US) +1 617-675-4444 PIN: 496 190 483 0775#

Day 2 - Monday April 19, 2021

Link to Day 2 GoToMeeting Recording

NOTE: new go-to-meeting for the remainder of the meeting:
https://global.gotomeeting.com/join/199539645
You can also dial in using your phone: +1 (408) 650-3123 Access Code: 199-539-645

Opening Remarks - 11:00 AM - 11:10 AM ET

- Andrea Ray, TBPGCC Chair

Session 2 - 11:10 AM - 12:40 PM ET

Advancing the UFS through Testbed and Proving Ground Engagement

NOTE - The UFS session reconvened at 2:50 PM ET following Session 3 (1:10 PM - 2:40 PM ET). Session 4A was held early, at 11:45 AM ET. All Sessions were recorded.

Co-chairs: Jessie Carman (CTB), Louisa Nance (DTC)
Presentation: Hendrik Tolman (NOAA/NWS, Senior Advisor for Advanced Modeling Systems)
Panelists: James Correia (HMT), Matthew Rosencrans (CTB), James Yoe (JCSDA)

Abstract:The Unified Forecast System (UFS) is a community-based, coupled comprehensive Earth system model-based analysis and prediction system designed to meet the National Oceanic and Atmospheric Administration's (NOAA) operational forecast mission to protect life and property and improve economic growth. NOAA views the UFS as the common source system for NOAA's operational NWP applications--spanning local to global domains and predictive time scales from sub-hourly analyses to seasonal predictions--benefitting from promising community-based research innovations; this vision requires a more formalized, organized, documented, and transparent transition of research to operations (R2O).

The UFS Steering Committee defines R2O functions for the UFS in its document Organizing Research to Operations Transition. A key aspect of this R2O process is evidence-based decisions following from testing, verification and validation, and acknowledges that NOAA Testbeds have capacity to support the R2O process, but the particulars of how the various NOAA Testbeds will engage in this process is yet to be defined. This session will discuss the best pathways for engaging the existing NOAA Testbeds and Proving Grounds to support the R2O process and accelerate the improvements in the forecast skill of NOAA modeling suite.

30 minute Break - 12:40 PM - 1:10 PM ET

Session 3 - 1:10 PM - 2:40 PM ET

Social, Behavioral & Economic Sciences and User Engagement

NOTE - The UFS session reconvened at 2:50 PM ET following Session 3 (1:10 PM - 2:40 PM ET). Session 4A was held early, at 11:45 AM ET. All sessions were recorded.

Co-chairs: Katherine Hawley (NESDIS/STAR, affiliated with SPG), Kodi Berry (HMT), Matthew Mahalik (OAR/WPO), John Brost (OPG)

Panelists:

- Gina Eosco (WPO),
- Stephanie Avey (AWT),
- Vanessa Escobar (Lead Scientist for NOAA/NASA GEO-XO User Engagement, affiliated with SPG),
- Daphne LaDue and Kim Klockow-McCain (both Univ. of OK/CIMMS, affiliated with HWT)

Abstract: This session will discuss how social, behavioral, and economic sciences (SBES) are being used in Testbeds and Proving Grounds. This session will provide an overview of SBES funding opportunities from the OAR Weather Program Office and presentations about ongoing work using SBES in the AWT, Satellite Proving Ground, and HWT. The presentations will include the use of SBES to design experiments, ways to integrate SBES methods into experiments, and collaborations with the Federal Aviation Administration (FAA), NWS, emergency management, and broadcast media.

10 minute Break - 2:40 PM - 2:50 PM ET

Session 4A - 2:50 PM - 3:50 PM ET

NOTE - The UFS session reconvened at 2:50 PM ET following Session 3 (1:10 PM - 2:40 PM ET). Session 4A was held early, at 11:45 AM ET. All Sessions were recorded.

Collaboration Among TBs or PGs: Operations Proving Ground

Co-chairs: John Brost (OPG)

Panelists: Jimmy Correia, Nicole Kurkowski, and Alan Gerard

Abstract: OPG is the place where new tools, data sets, forecast techniques, or decision aids can be integrated into a WFO production environment (e.g. AWIPS) to evaluate whether it adds value to the forecast process with no appreciable negative impact on existing systems and practices. OPG has the capability to configure itself as any NWS Weather Forecast Office (WFO), or to emulate operational practices for up to several different WFOs simultaneously.

The OPG is fortunate to not operate on grants - but that's also a struggle because we would love to work with Universities/researchers but they often need funding to work with us. So OPG is interested to learn how collaborative projects typically work and how we resolve any funding challenges? In short, OPG would LOVE to collaborate with testbeds on all sorts of projects - for us it just requires some planning and setting dates on a

calendar. OPG would like to know what kinds of things are being tested in other TB&PGs that may need to go through the OPG process on its way to use in WFO's, and the timeline for testing in that testbed. The OPG charter can be found here.

Closing Remarks - 3:50 PM - 4:00 PM ET

Networking - 4:10 PM - 4:45 PM ET

- Join with Google Meet: https://meet.google.com/ihi-otzo-oft
- Or dial: (US) +1 617-675-4444 PIN: 496 190 483 0775#

Day 3 - Tuesday May 4, 2021

Link to day 3 recording.

NOTE: new go-to-meeting for the remainder of the meeting:
https://global.gotomeeting.com/join/199539645
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Opening Remarks - 11:00 AM - 11:10 AM ET

- Andrea Ray, TBPGCC Chair

Session 5 - 11:10 AM - 12:40 PM ET

Strategies, Challenges, and Successes in the Virtual Environment

Chair: John Brost (OPG),

Panelists: Katie Crandall Vigil (OPG), Stephanie Avey (AWT), Jimmy Correia (HMT), Jim Yoe (JCSD), Bob Heitsenrether (NOS/CO-OPS/OSTEP), Becca Mazur (ATB)

Abstract: The COVID-19 pandemic and the global shut down has led to expanded telework and use of the virtual environment. The virtual environment has presented unique challenges to the TB and PGs, but has also presented unique opportunities to advance strategies and techniques for continuing work that would have otherwise been conducted in person. This session will include presentations and a panel discussion that will explore some of the challenges and successes of operating TBs and PGs in the virtual environment and will identify some of the key lessons learned that can be utilized and expanded going forward.

30 minute Break - 12:40 PM - 1:10 PM ET

Session 4B - 1:10 PM - 2:10 PM ET

Collaboration Among TBs or PGs: Satellites

Co-chairs: Dan Lindsey and Mitch Goldberg (SPG)

- Presentation available here.

Panelists: Becca Mazur (ATPG), Kristin Calhoun (HWT), Jim Nelson (HMT), JJ Brost (OPG)

Abstract: This session begins with NESDIS Chief Scientist Mitch Goldberg providing a high level overview of the various activities associated with the Satellite Proving Ground, including the new NESDIS vision for enterprise satellite research and user engagement. SPG activities cut across other testbeds and proving grounds, participating in the Hazardous Weather and Hydromet Testbeds, and has liaison positions with several testbeds and NCEP centers. Originally called the GOES-R Proving Ground, NESDIS has combined the efforts of the Geostationary and Polar-Orbiting programs into a single "Enterprise" Satellite Proving Ground. The presentation will be followed by a panel discussion with representatives from other NOAA Testbeds and Proving Grounds, all of which use satellite information and collaborate with the Satellite PG. A primary goal of the panel discussion is to discuss ways in which NESDIS can better work with and support the other Testbeds. Links to the original proving ground webpages: GOES-R and JPSS.

10 minute Break - 2:10 PM - 2:20 PM ET

Session 4C - 2:20 PM - 3:20 PM ET

Collaboration Among TBs or PGs: Developing a Fire Weather Testbed

Co-chairs: Jennifer Mahoney (NOAA/OAR/GSL), Mitch Goldberg (NESDIS/JPSS), and Robyn Heffernan (NOAA/NWS)

- Presentation available here

Panelists: Daniel Nietfeld (NWS liaison to GSL), Nick Naulser (Fire Meteorologist, BLM)

Abstract: A cross line-office team is working to propose a Fire Weather Testbed. Jennifer Mahoney, Mitch Goldberg and Robyn Heffernan will discuss the plans, and they would like brainstorming and feedback on creating a successful testbed. They are

interested in hearing from other Testbeds and Proving grounds about recommendations, and lessons learned on creating a charter, developing funding streams, and what else they should be thinking about at this stage in development.

Remarks from the new OAR ORTA and WPO Directors - 3:20 PM - 3:50 PM ET

- Fiona Horsfall, Director, Office of Research, Transition, and Application (ORTA)
- Dorothy Koch, Director, Weather Program Office (WPO)

Closing Remarks - 3:50 PM - 4:00 PM ET

Networking - 5:00 PM - 5:30 PM ET (note the later time than the other networking sessions)

- Join with Google Meet: https://meet.google.com/ihi-otzo-oft
- Or dial: (US) +1 617-675-4444 PIN: 496 190 483 0775#

Day 4 - Wednesday May 5, 2021

Link to Day 4 Recording

NOTE: new go-to-meeting for the remainder of the meeting:
https://global.gotomeeting.com/join/199539645
You can also dial in using your phone: +1 (408) 650-3123 Access Code: 199-539-645

Opening Remarks - 11:00 AM - 11:10 AM ET

- Andrea Ray, TBPGCC Chair

Session 6 - 11:10 AM - 12:40 PM ET

Transitions and Metrics of Success (including Readiness Levels)

Co-chairs: Jessie Carman, Andrea Ray

Panelists: Matt Mahalik (WPO); Annette Hollingshead (AOML and Lead, LOTMC Readiness Level Task Force); Brian Zachry (JHT and AOML); Greg Dusek (NOS and COMT); Matt Rosencrans (CTB and CPC)

Abstract: Panelists in this session will discuss what's new in the transitions world including innovations in how transitions and transitions plans are being managed at WPO (Mahalik), the LOTMC Readiness Level Training Task Force (Hollingshead), the

National Hurricane Center's process for accepting transitions, transitions efforts and challenges with the NOS rip tide model (Dusek), and transitions at the CTB (Rosencrans).

30 minute Break - 12:40 PM - 1:10 PM ET

Session 7 - 1:10 PM - 2:40 PM ET

Testbed Funding Opportunities, Successes and Challenges

Co-chairs: Kodi Berry (HWT), Jim Nelson (HMT)

Panelists: Mark Vincent (OAR/WPO), Jordan Dale (OAR/WPO), Dan Lindsey (SPG), Patrick Marsh (NWS/SPC and HWT), Derrick Snowden (NOS/IOOS)

Abstract: This sessionv will discuss current or possible TB & PG funding and strategies to increase or broaden avenues of funding, and questions such as whether testbeds feel they play a large enough role in the selection of which projects get funded? in determining science priorities that are addressed in funding competitions? Panelists will discuss WPO streams of funding (Dale), Supplementals (Vincent), the balance between internal operational needs and external funded projects (Marsh), how COMT brings in various streams of funding (Snowden), NESDIS PG funding (Lindsey), and other topics.

10 minute Break - 2:40 PM - 2:50 PM ET

Remarks on the Evolution of the TBPGCC and the OPG - 2:50 PM - 3:15 PM ET
(Note: the JHT discussion is postponed to a monthly meeting)

- Kim Runk, Senior Planning Advisor, Office of Science & Technology Integration, and Former OPG Manager

Discussion - 3:15- 3:50 PM ET

- Roundtable: What have we learned and have we made progress on TB & PG challenges and opportunities?

Closing Remarks - 3:50 PM - 4:00 PM ET

Networking - 4:10 PM - 4:45 PM ET

- Join with Google Meet: https://meet.google.com/ihi-otzo-oft
- Or dial: (US) +1 617-675-4444 PIN: 496 190 483 0775#

Day 5 - Tuesday May 11th

Recording of Day 5

The GoToMeeting information for the meeting:
https://global.gotomeeting.com/join/199539645
You can also dial in using your phone: +1 (408) 650-3123 Access Code: 199-539-645

Welcoming Remarks - 2:00 PM - 2:10 PM ET

- Andrea Ray, TBPGCC Chair

Speaker - 2:10 PM - 2:30 PM ET

- Remarks by Steve Smith, Acting Director of the Office of Science and Technology Integration, NWS

Meeting review and wrap up Discussion - 2:30 PM - 3:50 PM

- What are the areas that you think are ripe for cross-testbed/proving ground collaboration in the short term (1 to 2 years) and the long term (3 to 5 year)?
- What are the functional/structural/technical things that would benefit the TB/PGs (or a subset) in getting their work done in the next 1-2 years (e.g. developing common data storage or formats in the cloud)?

Closing Remarks - 3:50 PM - 4:00 PM

Networking - 4:10 PM - 4:45 PM ET

- Join with Google Meet: https://meet.google.com/ihi-otzo-oft
- Or dial: (US) +1 617-675-4444 PIN: 496 190 483 0775#

Acronym Decoder

AWDE: Aviation Weather and Data Evaluation Services
AWT: Aviation Weather Testbed
ATPG: Arctic Testbed and Proving Ground
BLM: Bureau of Land Management (Dept of Interior)
CaRDS: Capabilities and Requirements Decision Support
CIMMS: Univ of OK-NSSL Cooperative Institute for Mesoscale Meteorological Studies
COMT: Coastal and Ocean Modeling Testbed
CO-OPS: NOS Center for Operational Oceanographic Products and Services
CPC: NWS/NCEP Climate Prediction Center
CTB: Climate Testbed
DOC: Department of Commerce
DTC: Developmental Testbed Center
EPIC: Earth Prediction Innovation Center
EMC NWS/NCEP Environmental Modeling Center
ESRL: OAR Earth System Research Laboratory
FFO: Federal Funding Opportunity
GFS: Global Forecast System
GOES-R PG: GOES-R Satellite Proving Ground
GEO-XO: NOAA's Geostationary and Extended Orbits satellite system
GPRA: Government Performance and Results Act
GSD: OAR/ESRL Global Systems Division
HFIP: Hurricane Forecast Improvement Project
HREF: High Resolution Ensemble Forecast
HRRR: High Resolution Rapid Refresh model
HWT: Hazardous Weather Testbed
HMT: Hydrometeorological Testbed
IDSS: Impact-Based Decision Support Services
IOOS: U.S. Integrated Ocean Observing System
JCSDA: Joint Center for Satellite Data Assimilation
JHT: OAR-NWS Joint Hurricane Testbed
JPSS: Joint Polar Satellite System
JTTI: OAR-NWS Joint Technology Transfer Initiative
LOTMC: NOAA Line Office Transition Managers Committee
NCEP: NWS National Centers for Environmental Prediction
NGGPS: Next Generation Global Prediction System
NHC: NWS/NCEP National Hurricane Center
NIFC: National Interagency Fire Center
NOS: National Ocean Service

NSSL: National Severe Storms Laboratory
NWC: NWS National Water Center
NWM: National Water Model
OAR: NOAA Office of Oceanic and Atmospheric Research
OPC: NCEP Ocean Prediction Center
OPG: Operations Proving Ground
ORTA: Office of Research, Transition, and Application
OWP: NWS Office of Water Prediction
PSL: OAR ESRL Physical Sciences Laboratory
S2S: Subseasonal to Seasonal
SSD: NWS Scientific Services Division (one for each region)
STI: NWS Office of Science & Technology Integration (STI)
SBES: Social, Behavioral, and Economic Sciences
SPC: NWS/NCEP Storm Prediction Center
SPG: Satellite Proving Ground
SSD: NWS Scientific Services Division (one for each region)
STI: NWS Office of Science & Technology Integration (STI)
S&T areas: NOAA Science and Technology Focus Areas
SWT: Space Weather Testbed
UFS: Unified Forecast System
USWRP: U.S. Weather Research Program
WFO: NWS Weather Forecast Office
WPC: NWS/NCEP Weather Prediction Center
WPO: OAR Weather Program Office
WWE: HMT Winter Weather Experiment